UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,714	01/18/2001	Sidney M. Baker	2761.100	1589

			EXAMINER
27538	7590	04/04/2005	FRENEL, VANEL

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ART UNIT	PAPER NUMBER
3626	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.
09/765,714</td><td>Applicant(s)
BAKER ET AL.</td><td></td></tr>
<tr><td>Examiner
Vanel Frenel</td><td>Art Unit
3626</td><td></td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

    A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>18 January 2001</u>.

2a)☐ This action is **FINAL**.　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-18</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-18</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All　b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Notice to Application

1.   This communication is in response to the application filed on 01/18/01. Claims 1-

18 are pending.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

3.   Claims 7-12 and 13-18 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

(1) whether the invention is within the technological arts; and

(2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the

technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural

phenomena) that do not apply, involve, use, or advance the technological arts fail to

promote the "progress of science and the useful arts" (i.e., the physical sciences as

opposed to social sciences, for example) and therefore are found to be non-statutory

subject matter. For a process claim to pass muster, the recited process must somehow

apply, involve, use, or advance the technological arts.

In the present case, claims 7-12 and 13-18 only recites an abstract idea. The

recited steps of comprehensively describing a system in terms of a basis set of

fundamental attributes of the system does not apply, involve, use, or advance the

technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. These steps only constitute an idea of how to analyze the cluster of closest other systems for information useful to improving the system's attributes.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case, the claimed invention produces other systems similarly described in a database of such systems (i.e., repeatable) used in identifying and analyzing the cluster of closest other systems for information useful to improving the system's attributes (i.e., useful and tangible).

Applicant is required to add in claims 7-12 and 13-18 "a computer system" or "a computer-readable medium" in the body of claims that can be able to perform the recited steps.

Although the recited process produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, claims 7-12 and 13-18 are deemed to be directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Pattichis (Neural Network Models in EMG Diagnosis; May 5, 1995) in view of Gulati

(6,780,589).

(A)   As per claim 1, Pattichis discloses a system comprising: an automated interactive

acquirer of data comprehensively descriptive of a particular system; a data processor

(See Fig.1, Page 487, Paragraphs 1-6); and a reporter to report the conclusions of the

data processor (See Page 488, Paragraphs E-F).

        Pattichis does not explicitly disclose a system comprising: an automated

interactive acquirer of data comprehensively descriptive of a particular system.

        However, this feature is known in the art, as evidenced by Gulati. In particular,

Gulati suggests a system comprising: an automated interactive acquirer of data

comprehensively descriptive of a particular system (See Gulati, Col.3, lines 42-67;

Col.5, lines 48-65).

        It would have been obvious to one of ordinary skill in the art at the time of the

invention to have included the feature of Gulati within the system of Pattichis with the

motivation of providing a technique that can identify mutation signatures within dot

spectrograms even in circumstance wherein the signal to noise ration is extremely low

(See Gulati, Col.2, lines 48-51).

(B)   As per claim 2, Gulati discloses the system where the system comprehensively

described is the medical state of a human being (Col.7, lines 35-50).

(C)   As per claim 3, Pattichis discloses the system where the data processor

implements a clustering generation algorithm (See Pattichis, Page 490, Paragraphs 2-

3).

(D)   As per claim 4, Pattichis discloses the system where the cluster generation

algorithm finds a cluster of other human beings medically similar to the human being

(See Pattichis, Page 494, Paragraph 5).

(E)   As per claim 5, Pattichis discloses the system where the data processor operates

on the generated cluster to generate useful medical information for the human being

(See Pattichis, Page 494, Paragraph 6).

(F)   As per claim 6, Pattichis discloses the system where the data processor

implements an algorithm that measures medical similarity (See Pattichis, Page 494,

Paragraph 5).

(G)   As per claim 7, Pattichis discloses a method comprising: measuring the distance

between the system so described and all other systems similarly described in a

database of such systems (See Pattichis, Page 490, Paragraph 2 which Examiner

interprets to be a form of measuring the distance); identifying the cluster of closest other

systems within the database (See Pattichis, Page 490, Paragraph); and analyzing the

cluster of closest other systems for information useful to improving the system's

attributes (See Pattichis, Page 490, Paragraph 6).

Pattichis does not explicitly disclose comprehensively describing a system in

terms of a basis set of fundamental attributes of the system.

However, this feature is known in the art, as evidenced by Gulati. In particular,

Gulati suggests comprehensively describing a system in terms of a basis set of

fundamental attributes of the system (See Gulati, Col.3, lines 42-67; Col.5, lines 48-65).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to have included the feature of Gulati within the system of Pattichis with the

motivation of providing a technique that can identify mutation signatures within dot

spectrograms even in circumstance wherein the signal to noise ration is extremely low

(See Gulati, Col.2, lines 48-51).

(H)   As per claim 8, Gulati discloses the method where the system analyzed is the

human being's medical state (Col.7, lines 35-50).

(I)   As per claim 9, Gulati discloses the method where the number of other systems

in the cluster is set dynamically (Col.6, lines 44-67; Col.12, lines 50-56).

(J)   As per claim 10, Gulati discloses the method where the number of other systems

in the cluster is determined by means of comparing the moving average of the

incremental increases in the medical distance with each added other system to a threshold (Col.17, lines 30-67).

(K)   As per claim 11, Pattichis discloses the method where the analysis of the cluster results in useful medical information for the human being (See Pattichis, Page 494, Paragraph 6)

(L)   As per claim 12, Pattichis discloses the method where the distance between the systems in the database is a measure of medical similarity (See Pattichis, Page 494, Paragraph 5).

(M)   As per claim 13, Pattichis discloses a method of expressing a human being's medical state as a multidimensional vector in a hyperspace (See Pattichis, Page 487, Paragraph 5).

Pattichis does not explicitly disclose articulating a comprehensive description of the human being using a specialized taxonomy; and mapping the articulation to a vector in hyperspace whose components are numbers indicating (1) a measure of the presence or (2) the absence of each of a set of medical attributes.

However, these features are known in the art, as evidenced by Gulati. In particular, Gulati suggests articulating a comprehensive description of the human being using a specialized taxonomy (See Gulati, Col.10, lines 48-67 which correspond to mutations); and mapping the articulation to a vector in hyperspace whose components

are numbers indicating (1) a measure of the presence or (2) the absence of each of a set of medical attributes (See Gulati, Col.11, lines 26-67 to Col.12, line 10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the feature of Gulati within the system of Pattichis with the motivation of providing a technique that can identify mutation signatures within dot spectrograms even in circumstance wherein the signal to noise ration is extremely low (See Gulati, Col.2, lines 48-51).

(N)   As per claim 14, Gulati discloses the method where the numbers vary between zero and an integer upper bound (Col.12, lines 40-59; Col.17, lines 35-67).

(O)   As per claim 15, Pattichis discloses a method comprising: encoding (See Pattichis, Page 494, Paragraphs 6-9).

Pattichis does not explicitly disclose a comprehensive description of a human's medical state to a set of numerical values.

However, this feature is known in the art, as evidenced by Gulati. In particular, Gulati suggests a comprehensive description of a human's medical state to a set of numerical values (Col.11, lines 37-67 to Col.12, line 10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the feature of Gulati within the system of Pattichis with the motivation of providing a technique that can identify mutation signatures within dot

spectrograms even in circumstance wherein the signal to noise ration is extremely low
(See Gulati, Col.2, lines 48-51).

(P)   As per claim 16, Gulati discloses the method where each of the numerical values
represent a measure of the presence or the absence of a unit vector in N dimensional
space (Col.11, lines 54-67).

(Q)   As per claim 17, Gulati discloses the method where N equals three (The
Examiner interprets row and column to be a form of three-dimensional See Col.11, lines
54-67).

(R)   As per claim 18, Pattichis discloses the method where each three-dimensional
unit vector is a unique coincidence of: a bodily system identifier (Page 489, Paragraphs
2-4); an identifier of a medical condition or pertinent fact (See Page 489, Paragraphs 2-
4); and a identifier of anatomical location (See Page 489, Paragraphs 2-4).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to
applicant's disclosure. The cited but not the applied art teaches electronic medical
records system (5,924,074).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanel Frenel whose telephone number is 703-305-4952. The examiner can normally be reached on Monday-Thursday from 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on 703-305-9588. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

V. F
V.F

March 18, 2005

ALEXANDER KALINOWSKI
PRIMARY EXAMINER